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ABSTRACT

Knowledge of the influence of situational variables and the importance of interaction between person and situation requires a more complex view of illness than that held by many practitioners of psychosomatic medicine, who attribute causality solely to internal and isolated personality traits. Personality was studied, therefore, as a conditioner of the effects of stressful life events on illness onset in three professional groups: business executives, lawyers, and Army officers. Similarities and differences in general stress resistance and personality mediation emerged. In each case, the personality traits of commitment and control functioned to heighten resistance to the effects of stress. A powerful correlation between stress and physical illness was found for Army officers, but not for lawyers. The personality trait of challenge tended to increase officers' illness scores and to decrease lawyers' and executives' symptoms. These differences can be explained by a model that looks at personality in conjunction with stressful life events and the distinctive structures and processes of each specific profession. (Author/CS)

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PERSONALITY AND STRESS-RESISTANCE ACROSS PROFESSIONAL GROUPS

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Personality and Stress-Resistance across Professional Groups[1]

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Bringing the question of personality mediation to stress and illness research did two things for me as a psychologist. First, it provided a way of thinking about how some persons might stay healthy under stress, while others get sick. A concern with personality required the observation of varied cognitive appraisal and coping styles, and thereby, introduced individual differences in stress reaction. Second, and as important, the issue of mediation offered a way of thinking about personality in context. Questions like "What personality characteristics condition or reduce the harmful effect of stress?" provoke a conceptualization of personality in interaction with the environment, specifically, an environment characterized by events causing change and demanding readjustment in persons' lives. Unlike many of our predecessors in psychosomatic medicine, personality and stress researchers cannot be satisfied with attributing causality solely to to internal and isolated personality traits. What we have learned about the influence of situational variables and the importance of interaction between person and situation requires a much more complicated explanation of illness. For example, to understand how the alienated executive falls victim to a heart attack shortly after a job transfer, the psychologist needs

to know about both the executive's feelings and attitudes of alienation and the organizational pressures and expectations surrounding the transfer.

As my personality and stress research has developed, I have tried to ask more theoretically elaborated and contextual questions about personality. This has necessitated an examination of personality mediation in significantly different environments, i.e., in various distinctive professions. I would like to briefly review here three of these stress and personality studies. The first involves business executives; the second, lawyers; and the third, U. S. Army officers. There are similarities in the stress-resistance of these groups, but also differences. As this paper will hopefully make clear, both clarify how personality works to keep persons healthy under stress.

The Executive Study

The business executive study is the most complex and long range of the investigations to be presented. It has provided both retrospective and longitudinal evidence for the significance of personality mediation. Subjects are 259 middle and upper level executives, all working for the same public utility situated in a major Midwestern city. They have told us about their stress and illness experiences over a six year period, provided personality information, and answered questions about demographics, aspects of the job situation, coping techniques, and other variables too numerous and complicated to specify here. The highly homogeneous business sample was exclusively male with the following modal characteristics: 40 to 49 years of age, married with 2 children, third or middle management level, college educated, caucasian, and Protestant.

At several data collection points, stress was measured through an adaptation of the popular Holmes and Rahe instrument (1967). This asks

subjects to simply indicate which of a list of minor and major, desirable and undesirable events they have encountered in the recent past. By using consensually derived weights for each of the life events, this test provides objective stress scores for each executive. Subjective stress scores were not sought because they merge and blur those distinctive personality and stress variables I wished to view in interaction with each other. Subjective stress scores are necessarily a reflection of both events external to the individual and "contaminants" like idiosyncratic perceptions of stress, coping attempts, and experiences like illness which may have followed the events (cf. Dohrenwend, Krasnoff, Askenasy, & Dohrenwend, 1978). Illness scores were based on the modified Seriousness of Illness Rating Scale (Wyler, Masuda, & Holmes, 1970) which enumerates several commonly recognized medical and psychiatric diseases. Subjects told us which of these they had suffered in the time periods corresponding to those reviewed for stress. Several standardized questionnaires provided information on personality. Most conceptually and empirically promising have been the various subscales of the Maddi, Kobasa, and Hoover Alienation Test (1979), the Internal-External Locus of Control Scale (Rotter, Seeman, & Liverant, 1962), the security scale of the California Life Goals Evaluation Schedules (Hahn, 1966), and the cognitive structure scale of the Personality Research Form (Jackson, 1974).

Simple stress and illness correlations, calculated within and across several time periods, have consistently fallen within the usual range for such research, .20 to .30. Although significant, these correlations speak of subjects who are not falling sick under stress, and of a good deal of illness variance unexplained by stress levels. The retrospective study (Kobasa, 1979) established that there are indeed executives who live with high stress in

their lives without illness. Further, these hardy types are significantly discriminated from those executives who do become sick under stress by three personality characteristics: commitment, control, and challenge. The notion suggested by these data that personality leads to the kind of stress evaluation and coping which protects the organism from harmful levels of arousal or activation, has been further supported in our longitudinal work (Note 1). Dr Maddi, who has been involved in the longitudinal study (Note 2), will elaborate in his paper on how highly stressed executives who show strong commitment, challenge, and control in 1975 report significantly less medical and psychiatric illness in 1976 and 1977, than executives low in these personality characteristics while undergoing stress.

The Lawyer Study

My study of lawyers involved 157 general practice lawyers, all attendees of a legal economics conference. All subjects were again male, and very homogeneous in demographics. The average lawyer was 40 years of age, married with two children, caucasian, and living in a major metropolitan area. Lawyers completed essentially the same research instruments as executives have. The Holmes and Rahe stress test was again modified to include stressful life events peculiar to the professional group under study, as it had been to suit the executive sample. In the stress instrument, as well as the illness test, lawyers told us about their experiences within the previous twelve months. The same personality characteristics of commitment, control, and challenge were measured, but this time through a shorter composite questionnaire. Additional personality information was also obtained. Specifically, lawyers were asked additional questions about their use of particular coping techniques that we hypothesized to be associated with our three personality mediators of commitment, control, and challenge.

Lawyer results showed an insignificant correlation of .03 between stressful life events and medical or physical illness. Associating stress with psychiatric symptomatology, however, produced a highly significant Pearson correlation of .29 ($p < .0003$). Stepwise regression analysis established the nature of lawyers' stress-resistance. The resulting equation ($R^2 = .55$, $F = 24.20$, $p < .001$) showed that lawyers' psychiatric symptoms can be best predicted by a combination of information on coping styles, personality, and stress. The most powerful predictors of symptoms are the degree of regressive or avoidence coping relied upon and the personality characteristics of alienation. These are followed in influence by lawyers' use of social supports. The least powerful, yet still significant, predictor is stressful life events. To summarize lawyers' stress-resistance: the less lawyers use regressive coping (e.g., drinking more or taking more tranquilizers in the face of stress), the more committed they are, the more they feel they can talk with others about their work stresses, and the lower stressful life events scores, the healthier their mental state.

The Army Officer Study

Seventy-five Army captains and majors constituted my officer study. Although representing several different branches of the military (infantry, air defense, intelligence, etc.), all officers were enrolled in a midwestern university preparing for assignments as R.O.T.C. instructors, at the time of testing. Most of the characteristics of this sample are familiar by now: male, and highly homogeneous in demographics with the modal subject married with two children, college educated, caucasian, and Protestant. Officers completed all

of the stress, illness, and personality questionnaires administered to the business executive sample. Only minor changes were made in the stress test to insure its relevance to the army situation. Like the lawyers, officers participated only in a retrospective study, providing stress and illness information for the previous year.

This information yielded highly significant results. Officers' reports showed a correlation of .56 ($p < .001$) between stressful life events and physical illness, and of .60 ($p < .001$) between stress and psychiatric illness.

Although stress scores explained a good deal of both types of illness variance, personality was still found to have a significant mediating influence. In a stepwise regression analysis, not only stressful life events, but also challenge and alienation emerge as significant predictors of physical illness ($R^2 = .50$, $F = 11.42$, $p < .01$). Stress is, in this case, the most powerful influence on magnitude of illness. But the ability to explain illness variance is significantly increased when information on stress is combined with that on personality mediators. For officers, the lower the sense of commitment and the greater the interest in challenge, the greater the physical symptomatology.

The data on officers' stress and psychiatric illness connection changes the picture of personality mediation somewhat. In a stepwise regression with psychiatric symptoms ($R^2 = .82$, $F = 48.9$, $p. < .001$), the personality mediators, control and commitment, emerge as most significant. Stress remains a significant predictor, but weaker than these other two. The importance of stress, however, is enhanced when combined with personality information. A sense of personal control, commitment and low stress levels lead to psychiatric health among Army officers.

Professional Differences

There are similarities across these three professional studies. The category of stressful life events most frequently reported by all professions is work stress. Each group undergoes at least a moderate degree of stress each year, which, according to the early Holmes and Rahe criteria (cf. Holmes & Masuda, 1974), should make their likelihood of getting sick significantly better than chance. Each group also suffered a moderate degree of illness, comparable to the threat to life and discomfort of a kidney infection or depression. The relationship between occurrence of stressful life events and onset of illness, is consistently significant for psychiatric symptomatology. Finally, for all professionals, personality in some form serves along with stress as a significant determinant of illness scores.

But there are also notable differences in general stress resistance and personality mediation between the professional groups. Included among these are the Army officers' idiosyncratically powerful correlation between stress and illness, the lawyers' failure to show any association at all between stress and physical illness, and the role of the personality characteristic of challenge in <u>increasing</u> officers' illness scores. These differences cannot be resolved by working with a model in which the personality dimensions of commitment, control, and challenge are only seen to interact with stressful life events. To successfully draw the link to the kind of cognitive appraisal and coping that keeps one healthy, one needs to conceive of personality in interaction with a more organizationally complicated environment that includes the distinctive structures and processes of the profession under study. A substantiation of this claim lies in an elaboration of the stress-resistance model which includes the following environmental factors: professional stress

ideology, social climate, and role expectations (Figure 1). This model is used in an attempt to explain those profession differences mentioned.

Please note that many more questions could be raised about group differences, and that these asked here will not be answered completely. Time permits only the examination of one of the added environmental factors in interaction with personality for each of the group differences highlighted.

Why is the lawyers' stress and physical illness correlation so low?

The ideology component of the environment is most promising of an answer to the question. The stress ideology of lawyers may foster that commitment or sense of purpose we have identified as crucial to the perception of stress as non-threatening, and to the use of optimistic or active coping (cf. Maddi, Note 2). We have found that the more able a person is to say that stress is a meaningful part of life, and that it offers opportunities to exercise decision-making and other valued skills, the more likely he is to stay healthy. The lawyer appears to be in an especially good position to make this kind of stress attribution. In work preliminary to the lawyer study, I found lawyers and those who know them, agreeing in the belief that lawyers thrive under stress. Although the ideology allows for some stress-related casualties, the most salient beliefs are those that say lawyers perform best in times of great change, and under a lot of pressure. In spite of the great stresses they undergo in their work (taking on new clients, dealing with a variety of judges, altering their practice to comply with new legislation, etc.), lawyers are said to never retire and to live very long, productive lives.

Given this ideology, one can argue that the lawyer has been socialized to persist in the face of a stressful life event, and to confront stress as a

challenge which he should be capable of meeting. This kind of cognitive appraisal and coping should mediate stress's negative impact on physiological adaptation and/or activation, and thereby, lessen the lawyer's chances of getting sick.

The business executive and the Army officer appear to be in a very different ideological context. The executive, for example, has been the subject of many of the popular stress articles which claim that stress kills. A classical stress victim is the up-and-coming executive who is felled by a heart attack before age fifty. Many business corporations, in their eagerness to set up stress management programs, gyms on their top floors, and cardiac units in the medical departments, seem to be buying into this negatively narrow view of stress. The executive is told that "stress is harmful and that attempts will be made to reduce it; but in the meantime, use biofeedback or the exercise machine to ready your body for the assault." Our business executive is left without social system support for seeing stress as positive and controllable. He is also forced to contradict the reigning professional ideology while confronting stress directly.

Why is the Army officers' stress and illness correlation so high?

Although a case could also be made for the Army's ideological failure to support stress-resistance, a better explanation for the officers' tendency to fall ill can be built around social climate factors.

A simple look at descriptive statistics across the professional groups establishes that Army officers are consistently lower on two personality variables found to promote successful stress evaluation and coping. Army officers show significantly less commitment and control than executives and lawyers do. Assuming that this is not simply the result of self-selection

factors, one can argue that on the personal growth and systems maintenance and change dimensions of social climate (cf. Moos, 1976), the Army fails to socialize its officers for stress-resistance.

Relevant to personal growth is the Army's totalistic and authoritarian nature. The officer is limited in his development of a personal sense of control by a profession that requires him to be ever ready to hand over control to someone else. Janowitz's (1960) description of the extreme duality of order and contingency in an officer's career path is relevant to this point. On the one hand, the officer has available to him a great deal of information about what he needs to do to succeed in his profession. On the other hand, all of the personal control exercised in planning a career path could be depreciated overnight by a congressional ruling, or unexpected development in a foreign country, or the decision of a commanding officer. This could lead an officer to that external locus of control we have found so detrimental to stress-resistance.

On the systems maintenance and change dimension of social climate, we find the Army showing what Moos would call poor clarity in organizational goals and purpose. Since the Vietnam war and with the difficulties of the all-volunteer force, the Army has been described as an institution not sure of what it is or where it is going. This has implications for how well the individual officer can develop a personal sense of commitment. We found in the executive study that the most important discriminator of the hardy executive who stayed well under stress was his sense of commitment to self. His clear sense and appreciation of his values and priorities allowed him to keep stressful life events in healthy perspective. It may be more difficult for the officer to attain these personality resources, given the

prevalent criticism of his role and the low recruitment rates his profession now suffers.

Why should challenge make officers sick under stress?

The finding that interest in challenge increased the physical illness scores of officers was the only disconfirmation of the personality mediation hypotheses met in our three studies. A look at role expectation in the Army may help explain it. Along with lack of systems clarity, officers as a group have to endure ambivalence around role expectations. Many of the officers in the study described fought in the Vietnam war. They learned to associate with their roles a dimension of brave heroism. With increasing insistence since the war, however, these same officers are being told by their profession that they are to play the role of calm and scientifically informed managers, not heroes.

For executives, challenge leads to effective coping and health. But this very same personality style on the part of officers easily turns into a once-prized and now outmoded sense of adventurousness. This amounts to serious conflict between subjective role perception and objective role definition, a well-documented facilitator of the illness-provoking effects of stress (cf. Katz & Kahn, 1978).

Concluding Remarks

From this brief exercise with the elaborated environment model, we can see at least three potential contributions to what we know about personality mediation. The model promises an understanding of personality's interaction with broader professional factors to increase stress-resistance. It suggests how personality mediation is developed in work contexts, and how some

professions may serve to limit commitment, control, and challenge. Finally, it suggests some inroads for intervention attempts in professions to increase the power of personality mediation.

Footnotes

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2. My gratitude to Salvatore R. Maddi, Stephen Kahn, Tim Strauman, and Caren Gotlieb who contributed in various ways.

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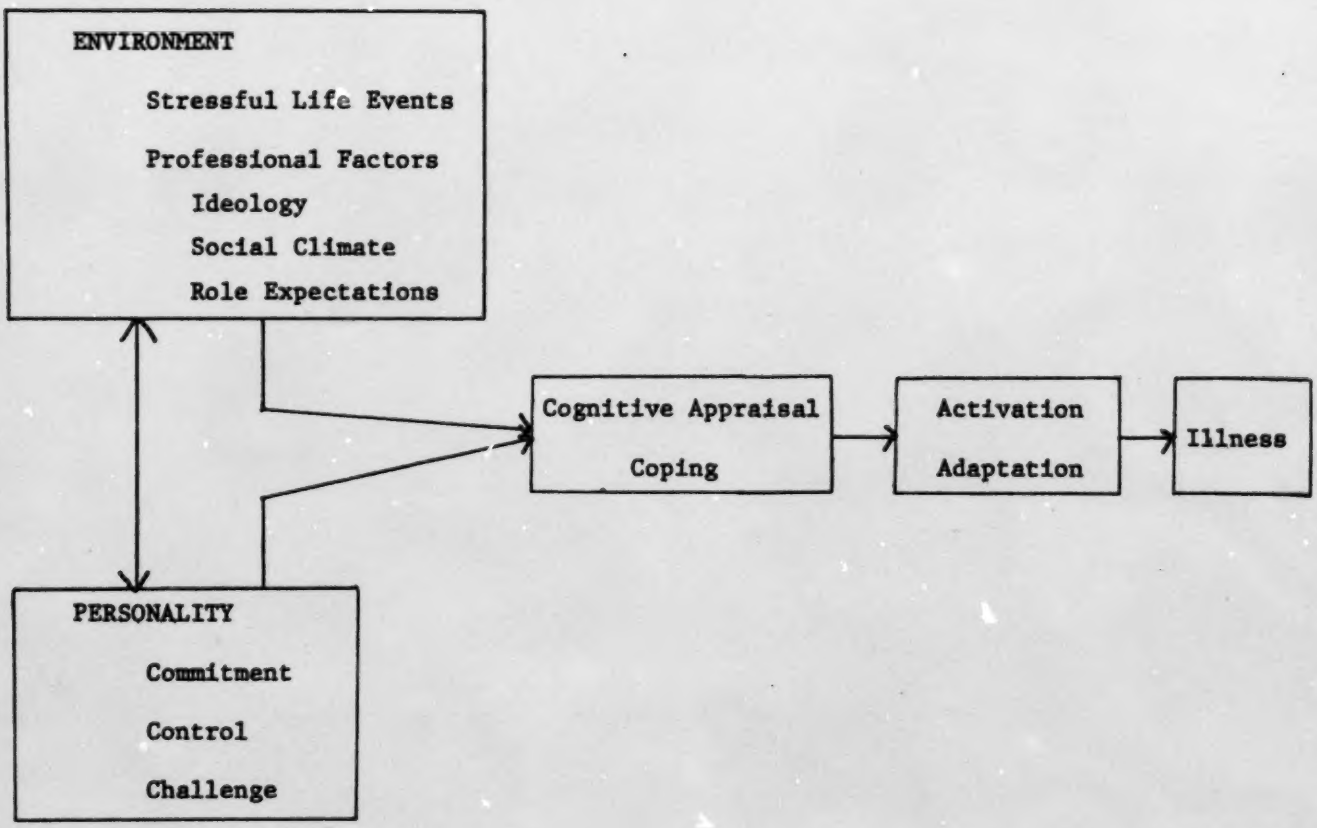

Figure 1. A model of the relationship between environment and personality variables and illness.